

Abstract

5 An addressing method of quantum network and a quantum network router are disclosed. There are at least three nodes in the network. The method comprises steps of: appointing an address serial number for every node; sending photon signals with different wavelength from one node to other nodes, wherein the signal source wavelength and node address are regarded as an addressing badge; determining, by every node, the source of signal
10 according to the addressing badge of received photon signals. Quantum network router comprises a photon signal allocator including N sets of optical components, one end of every optical component is mix-wavelength interface, and the other end includes separate wavelength interfaces; an external interface comprising mix-wavelength interfaces of optical components, separate wavelength interfaces of different optical components, which
15 transmit the same wavelength signals, connect one to one. Using this invention can realize quantum communication in deed, includes quantum cryptographic key distribution, quantum network transmission, namely generalized quantum communication, and compose quantum computer addressing bus or quantum computer network, etc.